# Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges

*Final Comprehensive Conservation Plan/ Environmental Impact Statement*

*Executive Summary*

*December 2016*

## National Wildlife Refuge System Mission

*To administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.*

*U.S. Fish and Wildlife Service*
*Pacific Southwest Region*
*2800 Cottage Way*
*Sacramento, California 95825*

*December 2016*

## Disclaimer

Comprehensive conservation plans (CCPs) provide long-term guidance for management decisions and set forth goals, objectives, and strategies needed to accomplish refuge purposes and identify the Service's best estimate of future needs. These plans detail program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. CCPs do not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.

# *Executive Summary*

## Current Status of the Comprehensive Conservation Plan

The U.S. Fish and Wildlife Service (Service) is pleased to announce the availability of the final comprehensive conservation plan/environmental impact statement (CCP/EIS) for the Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges (Refuges). The draft CCP/EIS was available for public review and comment from May 6 through August 4, 2016. Two public meetings were held in Klamath Falls, Oregon, on May 23, 2016. Public comments provided on the draft CCP/EIS have been considered in the preparation of the final CCP/EIS. Appendix U includes the Service's responses to public comments and the public comment letters received on the draft CCP/EIS are provided in Appendix V. The final CCP/EIS identifies the preferred alternative for each refuge. A record of decision will be signed following the 30-day wait period for the final CCP/EIS. Once final, the CCP will provide management direction for the refuges over the next 15 years.

This Executive Summary highlights the information included in the draft CCP/EIS. The full text of the final CCP/EIS is available online and at libraries at the locations described below.

## Introduction

The Service began the process of developing a CCP for the refuges in spring 2010. A separate CCP planning process was completed for the Klamath Marsh Refuge in 2010 (Service 2010); thus, this document focuses strictly on the remaining five refuges in the Klamath Basin National Wildlife Refuge Complex (Refuge Complex). Public, agency, and tribal involvement was an important part of the CCP process, with four scoping meetings held during the first year of the planning process, and multiple interagency and tribal meetings to address topics related to visitor services, cultural resources, and wildlife and habitat management.

The Refuge Complex is located in northern California and southern Oregon and consists of six separate national wildlife refuges (refuges): Lower Klamath Refuge, Clear Lake Refuge, Tule Lake Refuge, Upper Klamath Refuge, Klamath Marsh Refuge, and Bear Valley Refuge. The locations of the refuges are illustrated in Chapter 1. The Refuge Complex encompasses approximately 200,000 acres in Siskiyou and Modoc Counties in California and Klamath County in Oregon. Historically, the Klamath Basin was dominated by approximately 185,000 acres of shallow lakes and freshwater marshes.

## Comprehensive Conservation Plan Process

A CCP is prepared pursuant to the National Wildlife Refuge System Administration Act of 1966 (NWRS Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) (Public Law [PL] 105-57), and an EIS is prepared in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA). The Improvement Act and Part 602 (National Wildlife Refuge System Planning) of the Fish and Wildlife Service Manual provide the directives and guidance for preparing CCPs and recommend that the CCP and EIS be incorporated into one document. This approach, which provides for the direct integration of the provisions of NEPA into the CCP process, complies with the requirement that federal agencies integrate the NEPA process with other planning at the earliest possible time.

The CCP/EIS is a programmatic document intended to analyze proposed actions on a conceptual level, except in those cases where sufficient information is available to provide project-specific analysis. Therefore, the extent of analysis provided for each restoration and/or visitor services proposal reflects the level of detail currently available for the specific proposal. The habitat restoration proposals analyzed in the CCP/EIS should be viewed as conceptual. It is during subsequent project level planning, referred to as "step-down" planning, that additional studies would be conducted, additional baseline data would be gathered, the appropriate project-level NEPA documentation would be prepared, all necessary permits would be acquired, and final engineering and restoration planning would be conducted. Step-down planning would also include a public involvement component similar to that provided during the CCP process.

The CCP is intended to provide a clear and comprehensive statement of the desired future conditions for the refuges and to ensure public involvement in refuge management decisions. The public involvement component of CCP planning encourages public input throughout the process from initial scoping and public review of the draft CCP to participating in refuge management decision and step-down planning following formal adoption of the plan.

## Availability of the Final CCP/EIS

The final CCP/EIS is available online at: http://www.fws.gov/refuge/Tule_Lake/what_we_do/conservation.html. The final CCP/EIS is also available at the Klamath Refuge Basin National Wildlife Refuge Complex Headquarters, 4009 Hill Road, Tulelake, California 96134.

The table below lists the libraries where the final CCP/EIS is available for viewing during regular library hours.

| *Library* | *Address* | *Phone Number* |
|---|---|---|
| Klamath County Main Library | 126 South Third Street, Klamath Falls, Oregon 97601 | (541) 882-8894 |
| Keno Branch Library | 15555 Highway 66 #1, Keno, Oregon 97627 | (541) 273-0750 |
| Malin Branch Library | 2307 Front Street, Malin, Oregon 97632 | (541) 723-5210 |
| Merrill Branch Library | 365 Front Street, Merrill, Oregon 97633 | (541) 798-5393 |
| South Suburban Branch Library | 3625 Summers Lane, Klamath Falls, Oregon 97603 | (541) 273-3679 |
| Tulelake Branch Library | 451 Main Street, Tulelake, California 96134 | (530) 667-2291 |
| Butte Valley Branch Library | 800 West Third Street, Dorris, California 96023 | (530) 397-4932 |
| Redding Library | 1100 Parkview Avenue, Redding, California 96001 | (530) 245-7250 |
| Multnomah County Central Library | 801 SW 10th Avenue, Portland, Oregon 97205 | (530) 988-5123 |
| Sacramento Public Library - Central Branch | 828 I Street, Sacramento, California 95814 | (916) 264-2700 |

## Purpose and Need

The purpose of developing the CCP for the refuges is to provide managers with a 15-year strategy for achieving refuge purposes and contributing to the mission of the NWRS, consistent with the sound principles of fish and wildlife conservation and legal mandates. The CCP is flexible and will be revised periodically to ensure that its goals, objectives, strategies, and timetables are valid and appropriate.

The Improvement Act requires that the Service develop a CCP for each refuge, and that refuges be managed to ensure the long-term conservation of fish, wildlife, plants, and their habitats and provides for compatible wildlife-dependent recreation. The purposes for developing a CCP are as follow.

- To provide a clear statement of direction for the future management of the refuge.
- To provide long-term continuity in the Refuge Complex management.
- To communicate the Service's management priorities for the refuges to its conservation partners, neighbors, visitors, and the general public.
- To provide an opportunity for the public to help shape the future management of the refuges.
- To ensure that management programs on the refuges are consistent with the mandates of the NWRS and the purposes for which each refuge was established.
- To ensure that the management of the refuges fully considers resource priorities and management strategies identified in other federal, state, and local plans.
- To provide a basis for budget requests to support the refuge's needs, staffing, operations, maintenance, and capital improvements.
- To evaluate existing and proposed uses of each refuge to ensure that they are compatible with the refuge purpose(s) as well as the maintenance of biological integrity, diversity, and environmental health.

### The National Wildlife Refuge System

The NWRS is the largest collection of lands and waters specifically managed for fish and wildlife conservation in the nation. Unlike other federal lands that are managed under a multiple use mandate (e.g., lands administered by the U.S. Bureau of Land Management and the U.S. Forest Service), the NWRS is managed for the benefit of fish, wildlife, and plant resources, and their habitats.

Operated and managed by the Service, the NWRS comprises more than 545 national wildlife refuges with a combined area of more than 95 million acres. Most refuge lands (approximately 77 million acres) are in Alaska. The remaining acres are spread across the other 49 states and several island territories.

The mission of the NWRS is "*to administer a national network of lands and waters for the conservation, management, and, where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans*" (16 United States Code [USC] 668dd et seq.).

### Refuge Overview

The Refuge Complex is located in northern California and southern Oregon. This CCP addresses five of the separate national wildlife refuges (refuges) in the Refuge Complex: Lower Klamath Refuge, Clear Lake Refuge, Tule Lake Refuge, Upper Klamath Refuge, and Bear Valley Refuge (refer to Figure 1.1 in Chapter 1 for a map illustrating the locations of the refuges). The Refuge Complex encompasses approximately 200,000 acres in Siskiyou and Modoc Counties in California and Klamath County in Oregon. Historically, the Klamath Basin was dominated by approximately 185,000 acres of shallow lakes and freshwater marshes. Today, less than 25% of these historic marshes and shallow wetlands remain. The Refuge Complex was established to conserve much of the Klamath Basin's remaining wetland habitat, which now provides home to many species of migratory birds and other wildlife and plant species.

This section provides an overview of each refuge's establishment, purpose(s), vision statement, goals, and settings.

*Lower Klamath Refuge*

In 1908, President Theodore Roosevelt established Lower Klamath Refuge, "…as a preserve and breeding ground for native birds" (Executive Order [EO] 924). The refuge was established primarily to protect waterfowl and colonial nesting waterbirds from market hunting that occurred early in the twentieth century. EO 924 was subsequently amended by EOs 2200 (May 14, 1915), 3187 (December 2, 1919), 3422 (March 28, 1921), and 8475 (July 10, 1940). These later EOs changed the name and size of the refuge. Lower Klamath Refuge falls within the *Klamath Basin – Clear Lake Important Bird Area* (IBA). The National Audubon Society recognizes the complex of seasonal wetlands, impoundments, agricultural lands, expansive grassland, and sagebrush steppe habitat within this IBA as one of the most important bird areas in the state in terms of sheer numbers that use the habitats year-round.

Lower Klamath Refuge has eight purposes derived from laws under which it was established.

*"…as a preserve and breeding ground for native birds" (EO 924).*

*"…protection of native birds" (EO 2200).*

*"…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific flyway…" (Kuchel Act, 16 USC 695k).*

*"…to prevent depredations of migratory waterfowl on the agricultural crops in the Pacific Coast States" (Kuchel Act, 16 USC 695k).*

*"…dedicated to wildlife conservation…for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith" (Kuchel Act, 16 USC 695l).*

*"…consistent with proper waterfowl management, continue the present pattern of leasing the reserved lands…" (Kuchel Act, 16 USC 695n).*

*"…for waterfowl purposes, including the growing of agricultural crops by direct plantings and sharecrop agreements with local cooperators where necessary…" (Kuchel Act, 16 USC 695n).*

*"…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 USC 715d).*

The Service established the following vision statement for Lower Klamath Refuge during the CCP development process.

> *Lower Klamath National Wildlife Refuge will be an actively managed refuge with an abundance of productive and functional wetlands. We will demonstrate land and water management that exemplifies proper waterfowl management. Working with our conservation partners, we will employ current land management techniques and science to inform habitat management and restoration actions. We will establish a variety of native wetland plant communities and high-energy agricultural crops to support the highest degree of diverse migratory birds in North America. We will manage for a matrix of shallow freshwater marsh, open water, grassy uplands, and intensively managed agricultural croplands to provide essential year-round feeding, resting, nesting, and brood rearing habitat for waterfowl and other birds and wildlife. We will support a majority of Pacific Flyway migrants during annual spring and fall migrations; as well*

*as provide habitat for the more than 400 species that use this refuge throughout the year, including sand hill cranes; thousands of shorebirds; bald eagles; various water birds including white-faced ibis, great blue and black-crowned herons, great and snowy egrets; western, Clark's, and eared grebes; American white pelicans; several species of terns and gulls; and reptiles, amphibians, and mammals.*

*Establishing reliable water and the ability to cost-effectively and efficiently deliver it throughout wetland units on Lower Klamath National Wildlife Refuge is paramount to the Service's ability to provide diverse wetlands, protect native habitats and wildlife diversity throughout the year, reduce populations of invasive plants, and respond to changing environmental and climatic conditions. Thus, as our highest priority for Lower Klamath National Wildlife Refuge, we will to continue to seek solutions for securing and delivering consistent water.*

*The Service will also continue to promote sustainable agricultural practices that complement proper waterfowl management and benefit local economies. We will integrate diverse high-energy agricultural crops with productive wetlands to support migratory birds, reduce depredation on private lands, and seek solutions to reduce the use of pesticides.*

*By maintaining productive wetlands and agricultural habitats that support a wide variety of birds and wildlife, we hope that Lower Klamath National Wildlife Refuge will continue to be a favorite destination for current and future generations to enjoy rich cultural and natural values. The Service will increase high-quality wildlife-dependent visitor services by maintaining diverse hunting opportunities and expanding environmental education, interpretation programs, wildlife observation, and wildlife photography opportunities.*

*We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. It is our hope that successful implementation of management actions will result in premier habitats for millions of birds and wildlife and high-quality wildlife-dependent recreation opportunities, as President Theodore Roosevelt intended when he established Lower Klamath National Wildlife Refuge as the nation's first waterfowl refuge more than a century ago.*

The goals for Lower Klamath Refuge are presented below.

**Goal 1.** Provide wetland and agricultural habitats that meet food and cover requirements sufficient to support migratory waterfowl and non-game waterbird population objectives throughout the annual cycle while promoting the highest possible natural biological diversity of refuge habitats.

**Goal 2.** Support recovery and protection efforts for federally and state-listed threatened and endangered species and sensitive species that occur within the refuge.

**Goal 3.** Provide a range of wildlife-dependent recreational opportunities that emphasize the natural setting and the functions of the Lower Klamath Refuge.

**Goal 4.** Manage, conserve, evaluate, and interpret the cultural heritage and resources of the Refuge Complex while consulting with appropriate Native American groups and preservation organizations, and complying with historic preservation legislation.

*Clear Lake Refuge*

An April 11, 1911, EO 1332 by President William Taft established Clear Lake Refuge "…as a preserve and breeding ground for native birds…." The refuge consists of approximately 33,500 acres with just under half of the area as uplands and the remainder as Clear Lake. Clear Lake, which is within the refuge boundary, experiences high annual lake level variability, thus some years low lake levels can uncover large areas of lakebed and shore. The refuge includes several islands in Clear Lake which support the largest colony of American white pelicans in California. In addition, two endangered species of fish are found in Clear Lake: the Lost River sucker (*Deltistes luxatus*) and shortnose sucker (*Chasmistes brevirostris*). Clear Lake Refuge falls within the *Klamath Basin – Clear Lake IBA*. The National Audubon Society recognizes the complex of seasonal wetlands, impoundments, agricultural lands, expansive grassland, and sagebrush steppe habitat within this IBA as one of the most important bird areas in the state in terms of sheer numbers that use the habitats year-round.

Clear Lake Refuge has five purposes derived from laws under which it was established.

*"…as a preserve and breeding ground for native birds…" (EO 1332).*

*"…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific flyway…" (Kuchel Act, 16 USC 695k).*

*"…to prevent depredations of migratory waterfowl on the agricultural crops in the Pacific Coast states" (Kuchel Act, 16 USC 695k).*

*"…dedicated to wildlife conservation…for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith" (Kuchel Act, 16 USC 695l).*

*"…for waterfowl purposes, including the growing of agricultural crops by direct plantings and sharecrop agreements with local cooperators where necessary…" (Kuchel Act, 16 USC 695n).*

The Service established the following vision statement for Clear Lake Refuge.

> *A Clear Lake National Wildlife Refuge will demonstrate a managed landscape with a full suite of Great Basin sage-steppe habitat features. Working with our conservation partners, we will employ current land management techniques and science to inform habitat management and restoration actions. Healthy habitats will contain native plant populations, which will enable resiliency to fire.*
>
> *Resulting healthy sage-steppe vegetation communities will support many wildlife species. In particular, rocky islands will provide important nesting site for American white pelicans, as well as double-crested cormorants and other colonial nesting birds. Uplands will provide quality fawning habitat for pronghorn antelope. Uplands will also support an increasing population of the last remaining lek of sage-grouse in northeastern California and perhaps also support new pioneering leks.*
>
> *By maintaining productive sage-steppe habitats that support a variety of birds and wildlife, we hope that Clear Lake National Wildlife Refuge will provide opportunities for visitors to learn about the area's rich cultural and natural resources. Visitors will enjoy environmental education and interpretation programs, select hunting opportunities, as well as opportunities for high-quality wildlife observation and photography.*

*We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. It is our hope that successful implementation of management actions will result in premier wildlife habitat and high-quality wildlife-dependent recreation opportunities on this remote refuge.*

The goals for Clear Lake Refuge are as follow.

**Goal 1**. Protect, maintain, and restore sagebrush-steppe and associated upland and wetland communities characteristic of the Great Basin ecosystem.

**Goal 2**. Protect and maintain islands in Clear Lake Refuge to provide nesting habitat for colonial nesting waterbirds.

**Goal 3.** Provide a range of wildlife-dependent recreational opportunities that emphasize the natural setting and the functions of the Clear Lake Refuge.

**Goal 4.** Manage, conserve, evaluate, and interpret the cultural heritage and resources of Clear Lake Refuge while consulting with appropriate Native American groups and preservation organizations, and complying with historic preservation legislation.

### *Tule Lake Refuge*

Tule Lake Refuge was established on October 4, 1928, by EO 4975. The initial EO was amended by two subsequent EOs: 5945 (November 4, 1928), and 7341 (April 10, 1936). The EO states that the lands are to be managed "…as a refuge and breeding ground for wild birds and animals." After nearly a decade of debate, the Kuchel Act (PL 88-567, dated September 2, 1964) was passed. This compromise legislation ensured that the refuge would remain in public ownership and dedicated the lands, "…to the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith." This later provision allowed for the continued leasing of farmlands within the refuge, consistent with waterfowl management (see Appendix M for additional analysis and discussion related to the Kuchel Act). The 1,291-acre Peninsula Unit was added to the refuge in 1980. The Peninsula Unit is an important raptor nesting and use area and has significant archaeological and geological history. The public land order transferring it to the Service was signed on February 11, 1980 (Public Land Order 5712, February 11, 1980). Tule Lake Refuge falls within the *Klamath Basin – Clear Lake IBA*. The National Audubon Society recognizes the complex of seasonal wetlands, impoundments, agricultural lands, expansive grassland, and sagebrush-steppe habitat within this IBA as one of the most important bird areas in the state in terms of sheer numbers that use the habitats year-round.

Tule Lake Refuge has seven purposes, listed below, derived from laws under which it was established.

*"…as a refuge and breeding ground for birds…" (EO 4975).*

*"…as a refuge and breeding ground for wild birds and animals" (EO 5945).*

*"…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific Flyway…" (Kuchel Act, 16 USC 695k).*

*"…to prevent depredations of migratory waterfowl on the agricultural crops in the Pacific Coast states" (Kuchel Act, 16 USC 695k).*

*"…dedicated to wildlife conservation…for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith" (Kuchel Act, 16 USC 695l).*

*"…consistent with proper waterfowl management, continue the present pattern of leasing the reserved lands…" (Kuchel Act, 16 USC 695n).*

*"…for waterfowl purposes, including the growing of agricultural crops by direct plantings and sharecrop agreements with local cooperators where necessary…" (Kuchel Act, 16 USC 695n).*

The Service established the following vision statement for Tule Lake Refuge.

> *Tule Lake National Wildlife Refuge will be an intensively managed refuge with productive and functional wetlands. We will demonstrate land and water management that exemplifies proper waterfowl management. Working with our conservation partners, we will employ current land management techniques and science to inform habitat management and restoration actions. We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. We will provide essential year-round feeding, resting, nesting, and brood rearing habitat for waterfowl and other birds, especially white-fronted, snow, Ross, and cackling Canada geese. We will support more than 400 species that use this refuge throughout the year, including sandhill cranes; thousands of shorebirds; bald eagles; various waterbirds including white-faced ibis, great blue and black-crowned herons, great and snowy egrets; western, Clark's, and eared grebes; American white pelicans; several species of terns and gulls; and reptiles, amphibians, and mammals.*
>
> *We will also work within this strong agricultural community to showcase and promote sustainable agricultural practices that complement proper waterfowl management and benefit local economies. We will integrate diverse high-energy agricultural crops with productive wetlands to support migratory birds, reduce depredation on private lands, and seek solutions to reduce the use of pesticides.*
>
> *By maintaining productive wetlands and agricultural habitats that support a wide variety of birds and wildlife, we hope that Tule Lake National Wildlife Refuge will continue to be a favorite destination for current and future generations to enjoy rich cultural and natural values. The Service will increase high-quality wildlife-dependent visitor services by maintaining diverse hunting opportunities and expanding environmental education, interpretation programs, wildlife observation, and wildlife photography opportunities.*
>
> *We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. It is our hope that successful implementation of management actions will result in premier habitat for millions of birds and wildlife and opportunities for high-quality wildlife-dependent recreation.*

The goals for Tule Lake Refuge are as follow.

**Goal 1.** Provide wetland and agricultural habitats that meet food and cover requirements sufficient to support migratory waterfowl and non-game waterbird population objectives throughout the annual cycle while promoting the highest possible natural biological diversity of refuge habitats.

**Goal 2.** Support recovery and protection efforts for federally and state-listed threatened and endangered species and sensitive species that occur within the refuge.

**Goal 3.** Provide a range of wildlife-dependent recreational opportunities that emphasize the natural setting and the functions of the Tule Lake Refuge.

**Goal 4.** Manage, conserve, evaluate, and interpret the cultural heritage and resources of Tule Lake Refuge while consulting with appropriate Native American groups and preservation organizations, and complying with historic preservation legislation.

### *Upper Klamath Refuge*

On April 3, 1928, Calvin Coolidge reserved and set apart 7,560 acres of lands to be known as the Upper Klamath Wild Life Refuge, for the use of the Department of Agriculture "as a refuge and breeding ground for birds and wild animals" (EO 4851, April 3, 1928). On July 25, 1940, the reserve's name was changed by Presidential Proclamation No. 2416 to Upper Klamath Refuge (Presidential Proclamation No. 2416, July 25, 1940). The Service owns approximately 23,098 acres of land within the approved acquisition boundary, including two separate access easements totaling 3.84 acres. Hanks Marsh, 1,069 acres of formerly U.S. Bureau of Reclamation (Reclamation) land on the east edge of Upper Klamath Lake, was also to be retained in public ownership and dedicated to wildlife conservation under the Kuchel Act. Several documents attest to the value of the Hanks Marsh tract for breeding and migrating birds. In July 2005, the Service expanded the acquisition boundary of Upper Klamath Refuge to include the Barnes and Agency Lake Ranches on the north end of Upper Klamath Lake. The 2,820-acre Barnes Ranch was subsequently acquired between 2006 and 2010. The 7,159-acre Agency Lake Ranch was transferred to the Service from Reclamation in 2010. The purpose of the acquisitions was to increase water storage, restore wetlands, and improve water quality in Upper Klamath Lake. Benefits to the endangered Lost River and shortnose suckers and other wildlife were also anticipated. The approved boundary of the refuge also includes approximately 1,663 acres of private land. Upper Klamath Refuge falls within the *Upper Klamath Refuge IBA*. The National Audubon Society recognizes the refuge as an IBA due to the large numbers of white pelicans, nesting great egrets, and black-crowned night herons it hosts annually. In addition, Upper Klamath Refuge has been recognized for the large numbers of migrating and wintering tundra swans, geese, and ducks it supports.

Upper Klamath Refuge has seven purposes derived from laws under which it was established.

*"…as a refuge and breeding ground for birds and wild animals…subject to the use…for irrigation and other incidental purposes, and to any other existing rights" (EO 4851).*

*"…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific flyway…" (Kuchel Act, 16 USC 695k).*

*"…to prevent depredations of migratory waterfowl on the agricultural crops in the Pacific Coast states" (Kuchel Act, 16 USC 695k).*

*"…dedicated to wildlife conservation…for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith" (Kuchel Act, 16 USC 695l).*

*"…for waterfowl purposes, including the growing of agricultural crops by direct plantings and sharecrop agreements with local cooperators where necessary…" (Kuchel Act, 16 USC 695n).*

*"…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 USC 715d).*

*"…to conserve (A) fish or wildlife which are listed as endangered species or threatened species… or (B) plants…" (Endangered Species Act of 1973, 16 USC 1534).*

The Service established the following vision statement for Upper Klamath Refuge.

> *Upper Klamath National Wildlife Refuge will provide important marsh habitat in Upper Klamath Lake. Working with our conservation partners, we will employ current land management techniques and science to inform habitat management and restoration actions. We will seek opportunities to increase wocus, improve wetland habitat, increase summer refugial habitat for endangered suckers, and improve fish passage for native redband trout.*
>
> *Resulting healthy marsh wetlands will benefit many wildlife species including a variety of waterfowl, grebes, American white pelican, bald eagles, different heron species, native redband trout, endangered sucker species, and others.*
>
> *By maintaining diverse wetland and marsh habitats that support a variety of birds and wildlife, we hope that Upper Klamath National Wildlife Refuge will remain a favorite destination for a variety of visitors. We will provide opportunities for visitors to learn about the area's rich cultural and natural resources including environmental education and interpretation programs, a variety of hunting opportunities, and opportunities for high-quality wildlife observation and photography.*
>
> *We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. It is our hope that successful implementation of management actions will result in premier wildlife habitat and opportunities for high-quality wildlife-dependent recreation.*

Listed here are the goals for Upper Klamath Refuge.

**Goal 1.** Restore and maintain the composition and structure of existing and historic wetland communities of Upper Klamath Lake to meet the needs of migratory waterfowl, waterbirds, and sensitive species.

**Goal 2.** Provide a range of wildlife-dependent recreational opportunities that emphasize the natural setting and the functions of the Upper Klamath Refuge.

**Goal 3.** Manage, conserve, evaluate, and interpret the cultural heritage and resources of Upper Klamath Refuge while consulting with appropriate Native American groups and preservation organizations, and complying with historic preservation legislation.

*Bear Valley Refuge*

Bear Valley Refuge (4,178 acres) was established in 1978 as a communal winter roost for bald eagles and is located approximately 5 miles north of the California border near Worden, Oregon. During refuge establishment, preservation of remaining forested areas was the primary management objective. Shortly after Bear Valley Refuge was established, several bald eagle ecology studies were initiated by the Oregon Cooperative Wildlife Research Unit. Results from these studies indicated that Bear Valley Refuge was one of the major night roosts in the Klamath Basin and identified mature and old-growth Douglas fir and ponderosa pine as preferred roost trees (Keister et al. 1987).

Bear Valley Refuge has four purposes derived from laws under which it was established.

*"… to conserve (A) fish or wildlife which are listed as endangered species or threatened species… or (B) plants…" (Endangered Species Act of 1973, 16 USC 1534).*

*"…for the development, advancement, management, conservation, and protection of fish and wildlife resources…" (16 USC 742f [a][4]).*

*"…for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude…" (Fish and Wildlife Act of 1956, 16 USC 742f[b][1]).*

*"… suitable for: 1) incidental fish and wildlife-oriented recreational development, 2) the protection of natural resources, 3) the conservation of endangered species or threatened species…" (16 USC 460k-1).*

*"… the Secretary… may accept and use… real… property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors…" (Refuge Recreation Act, 16 USC 460k-460k-4, as amended).*

*"…conservation, management, and restoration of the fish, wildlife, and plant resources and their habitats…for the benefit of present and future generations of Americans…" (National Wildlife Refuge System Administration Act, 16 USC 668dd[a][2]).*

The Service established the following vision statement for Bear Valley Refuge.

> *Bear Valley National Wildlife Refuge will be an actively managed forested refuge. We will strive to manage for mature stands of mixed-conifer forest conditions composed of Douglas fir, incense cedar, and some white fir; open stands of old-growth ponderosa pine with grassy understory; and flourishing aspen riparian stands.*
>
> *Resulting healthy forest conditions will certainly meet the nesting and winter roosting needs of the largest concentration of bald eagles in the lower 48 states. Healthy forest conditions will also attract neotropical migrants, provide habitat for other birds and wildlife, and restore fire tolerance and reduce wildfire severity throughout the refuge and on adjoining properties.*
>
> *By maintaining healthy forest conditions and supporting an incredible winter population of bald eagles, we hope that Bear Valley National Wildlife Refuge will remain a favorite destination for a variety of visitors. We will continue to provide high-quality wildlife-dependent visitor services by expanding environmental education programs and providing outreach to increase youth in the outdoors; expanding environmental interpretation to include media and programs; maintaining select hunting opportunities;*

*and maintaining opportunities for high-quality wildlife observation and photography. In addition, we will work with willing adjacent landowners to seek opportunities to increase public access for wildlife observation.*

*We will employ adaptive management techniques that will allow us to best respond to changing environmental and climatic conditions. It is our hope that successful implementation of management actions will result in premier habitat for bald eagles and other wildlife and opportunities for high-quality wildlife-dependent recreation.*

The goals for Bear Valley Refuge are as follow.

**Goal 1.** Promote open stands of ponderosa pine with grass understory to restore historic fire regime.

**Goal 2.** Maintain existing areas of late successional forest conditions and actively manage to promote sustainability of this forest type.

**Goal 3.** Restore riparian habitats along the length of Bear Creek with an emphasis on aspen and willow establishment.

**Goal 4.** Provide a range of wildlife-dependent recreational opportunities that emphasize the natural setting and the functions of the Bear Valley Refuge.

**Goal 5.** Manage, conserve, evaluate, and interpret the cultural heritage and resources of Bear Valley Refuge while consulting with appropriate Native American groups and preservation organization, and complying with historic preservation legislation.

### Issues and Concerns Identified During Plan Development

Throughout the CCP/EIS planning process, the Service documented planning issues and concerns raised by affiliated tribes, the public, our partners, and other agencies. The key issues that have guided the development of alternatives and preparation of the final CCP/EIS are consolidated into the following categories.

#### *General Habitat*

- Identify migratory patterns; and abundance of fish, birds, wildlife, plants, and habitats.
- Maximize habitat for a full diversity of birds, not just waterfowl.
- Restore historic lake beds, marshes, and wetlands.
- Describe upland management including fire and juniper removal.
- Discuss wilderness designation.
- Improve bird monitoring.
- Conduct landscape-scale analysis to maximize habitat diversity.
- Model habitats for shorebirds and non-game birds.

#### *Water*

- Water management
  - Manage for natural hydrologic regime.
  - Secure necessary additional water.
  - Explore options for winter water storage.
  - Defend refuges' water right claims in the Klamath Basin Adjudication.
  - Develop new wells.

- Analyze the full range of alternatives on flows in the Klamath River including impacts to listed species and options to assist with recovery of Endangered Species Act (ESA)-listed coho.
- Describe tribal trust resources and prioritize water for ESA, state-listed, and restored native fishes.

- Water quality
  - Consider the total maximum daily load (TMDL).
  - Analyze increased removal efficiency of nutrient and organic matter from existing wetlands.
  - Improve timing of water releases to benefit water quality.
  - Develop comprehensive water quality management and monitoring plan.
  - Determine the ability to modify wetland structure or water flow to improve water quality.
  - Document the influence of irrigated agriculture.

*Agriculture*

- Discuss the pros and cons of continuing existing agriculture, and the compatibility of agriculture on refuges.
- Describe current and historic agricultural practices in the Klamath Basin.
- Interpret the Kuchel Act.
- Maintain agriculture and wildlife habitat on leased lands to provide food for the Pacific Flyway.
- Consider a voluntary buyout for agribusiness leases.
- Describe baseline agricultural data.
- Evaluate the Walking Wetlands Program.
- Evaluate chemical use.
- Evaluate commercial farming and the Lease Lands Program.

*Visitor Services*

- Improve the Refuge Complex Visitor Center.
- Reduce light pollution at the Refuge Complex Visitor Center.
- Improve environmental education, and increase collaboration with other local education entities.
- Improve photography opportunities.
- Improve access and opportunities for wildlife observation.
- Increase volunteerism.
- Improve signage and maps.
- Improve routine maintenance.
- Discuss the pros and cons of the hunting program, especially the guiding system, drawing system, free roam, and separate hunting and birding areas.
- Improve hunting opportunities, especially pheasant hunting.
- Reduce speed limits on refuge roads.
- Improve and increase vehicle pull-outs along roads.
- Improve wildlife viewing from roads.
- Evaluate separation from auto tour route and hunting areas.
- Increase law enforcement presence.

*Environmental Threats and Climate Change*

- Assess the risk of invasive species to conservation targets and evaluate options for threat reduction.
- Consider supporting the Oregon Aquatics Invasive Species Prevention Program.
- Conduct early detection rapid response for invasive plants, and increase weed eradication and invasive plant control.
- Evaluate how crops, water availability, and wildlife species would be impacted by climate change.
- Describe anticipated climatic conditions.
- Strive to promote ecosystem resiliency and evaluate how 10 to 15 years of refuge management should prepare for adaptation in the longer term.

*Klamath Basin Restoration Agreement (KBRA)*

- Describe the KBRA and what the Service needs to do to be prepared to fulfill the intent of the KBRA.
- Develop alternatives that reflect positive and negative secretarial determinations on the KBRA.
- Describe how water could be most efficiently managed.

*Miscellaneous*

- Consider placing existing overhead electrical lines underground.
- Implement stronger predator management program.

In addition to the external planning issues listed above, Chapter 3 of the final CCP/EIS provides a summary of some of the internal planning issues as described by Service employees regarding the history of water delivery, water management, habitat management, and political challenges. The Service has attempted to take all of these issues into consideration during the development of the CCP/EIS.

### Alternatives Evaluated in the Final CCP/EIS

An important step in the CCP process is the development and analysis of alternatives. Alternatives are developed to explore and analyze different ways to achieve refuge purposes, contribute to the mission of the NWRS, meet refuge goals, and resolve issues identified during scoping and throughout the CCP process. The alternatives (including the preferred alternative) developed for each refuge are discussed in Chapter 4 of the final CCP/EIS.

### References

Keister, G. P., R. G. Anthony, and E. J. O'Neil. 1987. Use of communal roosts and foraging areas by bald eagles wintering in the Klamath Basin. *J. Wildl. Manage*. 51:415–420.

U.S. Fish and Wildlife Service. 2010. Klamath Marsh National Wildlife Refuge, Final Comprehensive Conservation Plan and Environmental Assessment. June. Pacific Southwest Region. Tule Lake and Sacramento, California.